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ABSTRACT

This manual for computer searchers describes the software package--IBM's STAIRS (Storage And Information Retrieval System)--used for searching databases in AUSINET (AUStralian Information NETwork). Whereas the first edition explained STAIRS in the context of the National Library's Online ERIC Project and the ERIC data base, this second edition discusses STAIRS as a tool for searching any data base, and includes explanations of sophisticated search techniques not included in the earlier version. A brief description of STAIRS and how it works is followed by instructions for terminal operation, conducting a search, and what to do after the search. Additional search techniques--ranking results, selecting items, sorting results--and a source for information on using STAIRS in the batch mode are included. Data bases available for searching through AUSINET are listed in Appendix 1. (JD)

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EASY STEPS TO STAIRS

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Ian S. McCallum

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

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EASY STEPS TO STAIRS

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PREFACE

The creation of AUSINET (AUStralian Information NETwork) represents a major development in Australian librarianship. For the first time, Australian libraries will be able not only to access major overseas data bases, but also to create their own data bases of Australian material.

The software to be used for data base interrogation within AUSINET is IBM's Storage and Information Retrieval System (STAIRS). The first edition of Easy steps to STAIRS explained STAIRS in the context of the National Library's On-line ERIC Project and the ERIC data base. This edition aims to discuss STAIRS as applicable to any data base and also includes explanations of sophisticated search techniques that were not included in the earlier edition.

Comments on this edition of Easy steps to STAIRS are most welcome and should be sent to Sandra Duffield, Education Information Service, National Library of Australia. (Telephone (062) 621602)

1. INTRODUCTION

AUSINET (AUStralian Information NETwork) will provide its members with the basis of a national system for the creation and dissemination of social sciences and sci-tech information services. The network is based on ACI Computer Services' installation at Clayton, Victoria. The computing system for the network uses IBM software - Advanced Text Management System (ATMS) for data base creation, STAIRS for data base interrogation, and a range of software packages for producing hard-copy print-out, indexes, bulletins and other end products.

The companion volume to this manual, ATMS step by step, will provide AUSINET members with a guide to using ATMS for data base creation.

1.1 WHAT IS STAIRS?

STAIRS, or STAIRS/VS to be precise, is the acronym for Storage And Information Retrieval System/Virtual Storage and is as its name suggests - a system for storing and retrieving information.

The most important features of STAIRS are the functions for the retrieval of information - both on-line and in batch mode. The former is provided by the on-line sub-system of STAIRS, AQUARIUS (A Query And Retrieval Interactive Utility System), which offers a variety of methods for data base searching and document display.

STAIRS on-line is a self tutoring system and is probably your most convenient source of information on STAIRS. But as you will no doubt need some guidance before you actually sit down at a terminal, this manual has been designed to provide the necessary assistance.

STAIRS/VS-TLS, which is STAIRS augmented with Thesaurus and Linguistic Integrated System, extends the capabilities of STAIRS/VS and will be available to AUSINET members before the end of this year.

If you require more information about STAIRS than STAIRS itself or this guide can provide, please consult the IBM System/370(OS/VS Storage and Information Retrieval System/Virtual Storage (STAIRS/VS) Program Reference Manual, (Order number SH12-5400-1) produced by IBM.

1.2 HOW STAIRS WORKS

Each data base available for searching with STAIRS consists of several data sets and possibly the most important of these is the "inverted" data set. "Inversion" is a process whereby the locations of words from the citations on the data base tapes are recorded so that term occurrences can be retrieved directly - similar to the way in which the index in the back of a book refers to the term occurrences in the text.

The inverted data set is extremely comprehensive and records all significant terms, excluding low information content words such as "and", "at", "the" etc. These are known as "stopped words" and are discussed in Section 4.27.

So if you search for potentially relevant terms, STAIRS can retrieve citations without examining the whole of each record. Since the data base has already been "scanned" and its contents are known to the system, this happens very quickly.

1.3 ON-LINE TACTICS

An on-line system responds almost immediately to your instructions. It is therefore possible for you to adopt a trial and error approach to information retrieval. You can develop your search strategy as you go. For example, you could start with a simple query, see how many citations are retrieved, then browse through authors, titles or abstracts looking for terms which could be used to retrieve additional relevant citations or to eliminate irrelevant citations. You could then modify and resubmit your query, repeating the cycle until you feel you have retrieved as much information as you require.

2. THE SCREEN & KEYBOARD

To search data bases under STAIRS you will probably be using one of four models of VDU (Visual Display Unit):

Plessey-Courier	2750
IBM	3275
Olivetti	275
Sanders ANA	

All four models have similar screens and keyboards. The description which follows is based on a Plessey-Courier 2750 terminal.

2.1 THE SCREEN

The screen holds 24 lines, each of 80 characters, and can display both upper and lower case characters. To use the lower case function, press the button marked LC on the right hand side of the screen. The button marked 'CLR' will allow you to change back to an all upper case screen.

You can use either upper or lower case to enter your instructions to STAIRS but system responses will always appear on the screen in upper case.

2.2 THE KEYBOARD

The keyboard has:

- 12 function keys at the right of the keyboard. The names of the keys are displayed on the template which fits around them. One side of the template indicates the functions of the keys with STAIRS, and the other side indicates their functions with ATMS (Advanced Text Management System).

FUNCTION KEYS WITH STAIRS

SEARCH	SELECT	BROWSE
DISPLAY	RANK	CHANGE
PRINT	HELP	SORT
MAIL	EXEC	COPY

FUNCTION KEYS WITH ATMS

ADD	CHANGE	MOVE
COPY	PAGE	ROLL
PRTR	HARD COPY	

- the ENTER key. When you have entered data, you can transmit it to STAIRS by pressing the ENTER key. To issue commands to STAIRS, type your instruction and then press the ENTER key, or where appropriate use one of the special function keys instead;

- 26 alphabetic keys - exactly the same as an ordinary typewriter;

- the SHIFT keys. Two SHIFT keys and a SHIFT LOCK key are used to type upper case characters;

- 10 numeric keys with which you can type the digits 0 to 9. By using these keys with the SHIFT key you can type the special characters shown on the top of each of these keys;

- the CLEAR key. This key clears the screen;

- the ERASE INPUT and ERASE EOF keys. The ERASE INPUT key will erase all the characters you current.y hold on the screen. The ERASE EOF key will erase all cha.acters after the cursor. (The cursor appears on the screen as a horizontal line about 3mm long. It defines the place on the screen where your next instruction will be entered);

- the RETURN key. This key will position the cursor at the beginning of the next line to be typed;

- the BACK TAB key. This key is used to position the cursor at the beginning of the first line on the screen;

- the SPACE bar to generate blank spaces. By holding the SPACE bar down you can generate as many blank spaces as you want;

- 9 special character keys. Each key bears two characters. The upper character can be typed by depressing the SHIFT key and striking the special character key;

- the INSERT, DELETE and RESET keys, and four keys (marked with arrows) which govern the position of the cursor. All these keys can be used for error correction and their uses are described below;

- several other keys which you will not need to use with ATMS or STRIPS. These keys are not described in this manual.

2.3 CORRECTING TYPING MISTAKES

Instructions typed at the keyboard are not transmitted to the computer until you press the ENTER key. Typing mistakes made before using the ENTER key can be corrected by using one of the cursor control keys to position the cursor under the first incorrect character, and over-typing from that point.

Whenever you backspace on screen after you have completed typing, the INSERT and DELETE keys can be used. The DELETE key will delete one character at a time without leaving any gaps. Just position the cursor under the character you wish to delete. The INSERT key allows you to insert text without leaving any of the characters you have already typed. Press the INSERT key after you have finished inserting text.

3. SWITCHING THE TERMINAL

Before you begin your terminal session, make sure that the power points for your modem and terminal are switched on. Now

- remember to switch on the terminal itself by pressing the "Power" button; this will activate the "System ready" and "Sync. search" lights on the side of your screen;
- wait for ACT Computer Services to send you a "System started" message - this will appear on the bottom of your screen;
- the "System available" will have appeared under the "System ready" light on the side of your screen and you are ready to sign-on.

3.1 SIGNING-ON

Before you can use STRIKE to conduct a search, you will need to identify yourself to the system. Each user is identified by a unique sign-on code which consists of the word SIGN, a password, and a user identification number. Your sign-on code is part of the system's security precautions and you must use it each time you want to use STRIKE. Your sign-on code will be in the format:

SIGN	password	USERID
	(4 characters word)	(up to 10 characters)

You will be allocated one sign-on code for STRIKE and another for ATMS.

The program will:

- Check the password by prompting the user for key
- Prompt the user for key
- Type text
- Prompt the user for key
- Prompt the system text
- Print type the combination of the program code at command to you.

Typical options you will use when programming to alternate commands. If you fail twice, a "Name has attained privacy" message will appear on your screen. The will then have to reinstall (a combination (X) Condition), and for the typical operation and position when two happened. The typical operation is the only person who can make the necessary adjustment to enable you to alternate again.

If you have followed the alternate procedure correctly, the system should respond with a display asking to the date (enter "[date] (the name of [file]" on line and system) and then put you to enter the name of the data base you wish to access.

In the time of publication of this manual, the following data bases are available for searching:

Data base	Data base name	Comments
[file]	[file]	[file] to [date] of [file]
	[file]	[name] [file]
	[file]	[file] to [date] of [file]

Data base	Data base name	Comments
ERIC	CIJE	latest month of CIJE
SCI	SCNX	latest nine months SCI
SSCI	SSCI	1976 to date
	SSCU	latest two weeks of SSCI

A more comprehensive list of available data bases, including test files, is included as Appendix 1

3.2 SYSTEM PRIVACY

Great care is taken to avoid unauthorised access to the data bases available for searching with STAIRS. The unique sign-on code you have been allocated is part of these security precautions.

Because ACI Computer Services operate the master terminal, they must sign-on before you can do so, and if you encounter problems while you are searching, ACI can monitor your screen and help to diagnose your problem.

Failure to sign-on correctly twice in succession results in a "User has violated privacy" message on your screen - you will need to telephone ACI (03 5448433) and explain the situation to the STAIRS operator. You will not be able to sign-on again until the necessary adjustment has been made.

3.3 CHANGING DATA BASES

You can select another data base to search by pressing the CHANGE key. A list of data bases and their names is attached as Appendix 1.

3.4 SIGNING-OFF

You can sign-off at any time by typing ..OFF and pressing the ENTER key. If you sign-off with ..OFF CONT and if you sign-on again on the same day, you will be able to continue your search at the point where you left off.

The system will sign you off if you enter:

- the wrong sign on code twice
- the wrong data base name twice
- the ..OFF command.

3.5 PROBLEMS

You cannot do any damage to STAIRS - despite the fact that the set of programs controlling STAIRS is complex, the system itself is not fragile. However, inevitably problems will arise and these will tend to fall into the following categories:

PROBLEM	CAUSE	SOLUTION
"User has violated privacy" message	. the wrong sign on code entered twice . the wrong data base name entered twice	Telephone the computer room at ACI immediately and explain your problem. (03 5448433)
"System available" light on the side of your screen goes off during a search	. line problems . computer problems	Wait 5-10 minutes for the problem to be corrected by the STAIRS operator at ACI. If nothing happens, telephone the computer room and explain your problem.

PROBLEM	CAUSE	SOLUTION
No "System available" light or "System started" message when you first want to sign-on	. System not yet available	Telephone the ACI computer room and explain your problem.
"Invalid transaction identification" message on your screen	. line problems . computer problems	This message occurs when you continue searching after a line/ computer problem has been encountered. Just clear the screen and sign-on again.
The system fails to respond to a command after one minute	. Various	Press the RESET key and then press the ENTER key or one of the 12 special function keys. Be patient because the system sometimes takes several minutes to search high occurrence terms - for example, searching "education" in ERIC.

4. CONDUCTING A SEARCH

After you have signed on to STAIRS and specified the data base you wish to search, STAIRS will list on your screen some of the options available to you. These options are known as functions or modes.

```
R0102  ENTER DATA BASE NAME rytd

R0102  ENTER ONE OF THE FOLLOWING COMMANDS:

..BROWSE..SEARCH..SELECT..EXEC..RANK..HELP..CHANGE..OFF
_
```

4.1 STAIRS FUNCTIONS

The STAIRS functions fall into two groups: main and auxiliary.

FUNCTION or MODE		USE
..BROWSE ..CHANGE ..EXEC ..OFF ..RANK ..SEARCH ..SELECT ..SORT	Main STAIRS functions	For searching and for reading retrieved citations
..PRINT ..DISPLAY ..HELP ..MAIL ..PURGE ..SAVE ..SET	Auxiliary STAIRS functions	To assist your search and to produce printed results

Some of the main STAIRS functions also contain sub-commands which assist you in controlling your display of retrieved citations. These will be discussed within the appropriate function.

4.2 THE SEARCH (Text search) FUNCTION

You can get into search mode by pressing the SEARCH key. STAIRS will then ask for your query, and at the same time assign it a number. These query numbers are very handy if you wish to refer back to earlier queries. The system stores the queries and you can ask for them to be displayed at any point in your search by pressing the DISPLAY key (see Section 4.25).

The simplest type of query is a single word such as CHILD typed on the keyboard, followed by pressing the ENTER key. The system will respond with a count of the number of times CHILD occurs in the entire data base and will also post a total of the number of citations in which CHILD occurs. If you press the ENTER key again, the next query number will appear on the screen.

```
AQUARIUS-SEARCH MODE-BEGIN YOUR QUERY AFTER THE STATEMENT NUMBER

00001 child

CHILD                  10748 OCCURRENCES 5393 DOCUMENTS
RESULT                 10748 OCCURRENCES 5393 DOCUMENTS
```

This method of searching is known as free text searching because you can search all parts of a document citation for occurrences of your query word.

4.21 SEARCH OPERATORS

Since it is unlikely that you will want to limit your search to single term search statements, STAIRS provides "operators" that allow you to conduct more complex searches. An "operator" defines the relationship between two or more terms for which you may be conducting a search.

The operators available to you are:

OPERATOR		MEANING
ADJ	Used to specify CONTEXT	immediately followed (in the same sentence) by i.e. adjacent to
SYN		terms to be regarded as synonyms in the current query
WITH		in the same sentence as
SAME		in the same paragraph as
AND	Used to specify LOGIC	in the same document citation as
NOT		but not in the same document citation as
OR		retrieves documents containing one or both of the specified terms, i.e. and/or default operator
XOR		retrieves documents containing either the first or the second term specified, but not both

Two special operators, MASK and ROOT, are discussed in Section 4.26.

Please note that if you forget to specify an operator, the system will assume you mean OR. For example, if you type LIBRARY SERVICES when you mean LIBRARY ADJ SERVICES, STAIRS will interpret your request as LIBRARY OR SERVICES.

STAIRS will always display intermediate counts of term occurrences before displaying the final answer. The operations you have specified in your query statement are performed before the final results are listed. Be sure to wait for the final "result" statement before entering your next query - this "result" indicates that your entire query has been executed.

```
AQUARIUS-SEARCH MODE-BEGIN YOUR QUERY AFTER THE STATEMENT NUMBER

00001 library adj services

LIBRARY              12423 OCCURRENCES  2003 DOCUMENTS
SERVICES             14410 OCCURRENCES  7063 DOCUMENTS
RESULT                1013 OCCURRENCES   650 DOCUMENTS
```

For example, if you type LIBRARY ADJ SERVICES, STAIRS will respond with a count of the term occurrences of LIBRARY, and then with a count of the number of references in which LIBRARY occurs. This procedure will be repeated for SERVICES. However the final result will list only the number of times the phrase LIBRARY SERVICES occurs and the number of documents in which it occurs. In the example above, the phrase LIBRARY SERVICES occurs in 650 documents.

Sometimes you will need to press the ENTER key to get the final result, and if the intermediate results fill more than one screen, you will need to press the ENTER key several times.

If the query you enter exceeds a certain variable processing limit, the system will not be able to process your request. STAIRS will respond in either of two ways:

MESSAGE	SOLUTION
. TOO MANY WORDS FOR XXXX. QUERY ACCEPTED WITH WORDS AND COUNTS FOR TERM ONLY AS BEFORE THE OVERFLOW	Keep pressing the ENTER key until your result appears. You may want to reformulate your query as not all parts of it were processed.
. SYSTEM ERROR	Press the ENTER key and reformulate your search - you may need to enter it in small sections.

4.22 SEARCH QUALIFIERS

Document citations are made-up of formatted fields (see Section 6.2) and unformatted text. The unformatted text is comprised of paragraphs, sentences and words. The paragraphs are grouped into classes and each class has a name; for example TITLE, AUTHOR, ABSTRACT and DESCRIPTOR. Paragraphs vary between data bases but STAIRS itself will provide you with a list of paragraph class names for the data base you are searching. All you need to do is go into BROWSE mode and type in EXPLAIN. (See Section 5.1).

You may search particular paragraph classes by using the QUALIFIER .Paragraph class. .For example, SMITH.AUTHOR. will retrieve citations with SMITH in the author paragraph class; and NETWORKS.DESCRIPTORS. will limit your answer set to only citations with NETWORKS in the descriptor paragraph.

A double period, i.e. ..Paragraph class. may be used to specify negation, so that AUTOMATION..TITLE. will search for the occurrence of AUTOMATION in all paragraph classes except TITLE.

A convenient method of reducing the typing time involved in spelling out paragraph class names in full is to use an abbreviated form. For example, you will find it is far simpler to enter .D. instead of .DESCRIPTORS. or .AU. instead of .AUTHOR.. Be wary of paragraph class names beginning with the same character - just include as many characters as is necessary to avoid ambiguity.

4.23 PARENTHESES

Since several words may be related by several search operators, parentheses are often useful for retaining the sense of your search command.

For example, CURRICULUM OR CURRICULA ADJ DEVELOPMENT OR ENHANCEMENT would retrieve citations containing the phrases CURRICULUM DEVELOPMENT, CURRICULUM ENHANCEMENT, CURRICULA DEVELOPMENT or CURRICULA ENHANCEMENT. Parentheses will make this a little clearer: (CURRICULUM OR CURRICULA) ADJ (DEVELOPMENT OR ENHANCEMENT). You can see that this expression is quite different from: CURRICULUM OR (CURRICULA ADJ DEVELOPMENT) OR ENHANCEMENT.

Similarly, (INFORMATION ADJ RETRIEVAL) WITH SYSTEMS is much less ambiguous than INFORMATION ADJ RETRIEVAL WITH SYSTEMS.

To be safe, use parentheses in all search commands involving more than one operator because the system gives preference to some operators over others when your search command is processed.

4.24 BACK-REFERENCING

You can incorporate an earlier query within a subsequent query by back-referencing. For example:

QUERY NO.	QUERY
1	INFORMATION ADJ RETRIEVAL
2	SYSTEMS
3	1 WITH 2
4	CATALOGS
5	3 NOT 4

Query 5 refers to queries 3 and 4, and query 3 refers to queries 1 and 2. That is two levels of back-referencing.

4.25 KNOWING WHERE YOU ARE - THE DISPLAY FUNCTION

If you lose track of your query numbers, you can display your queries, complete with numbers and term occurrences, just by pressing the DISPLAY key. If there are too many queries to fit on one screen, you can view the next screen by pressing the ENTER key.

To leave DISPLAY, just keep pressing ENTER to return to SEARCH mode or press an appropriate function key.

4.26 MASKING AND THE ROOT OPERATOR

A masked word is designated by a word stem and a "$". Instead of typing, for example, LIBRARY or LIBRARIES, you could type LIBRAR$. The "$" is called a masking character. LIBRAR$ will match any word beginning with the stem LIBRAR - including LIBRARY and LIBRARIES.

However, you will need to be careful. READ$ will retrieve citations containing READ or READS or READING, but it will also retrieve citations containing READINESS or READILY or READY. Some control can be exercised by specifying the length of the mask. For example, READ$3 will retrieve READILY but not READINESS because only three more characters may be added to the stem READ.

Please be careful with masking. Because you have access to large data bases, you will find that indiscriminate masking will yield many words with common stems. You may even exceed the capacity of the system and an "overflow" message will appear on your screen. (see Section 4.21) If this happens you will need to rephrase your query to limit the number of term occurrences.

The special ROOT operator makes more efficient use of the system than masking. Typing ROOT followed by a word stem causes a display of all words beginning with just the stem. For example, ROOT READ will yield a list of all words beginning with READ. Please note that the ROOT operator will only display word stems; it will not cause the retrieval of citations containing the specified word stems.

If you retrieve too many terms to be seen on one screen, just press the ENTER key as often as it is necessary to display successive screens.

4.27 STOPPED WORDS

When data base files are inverted, certain words are usually suppressed and no indexes are constructed on them. These are words with low information content such as "a", "at", "and", "the", "of" etc. For this reason, a query such as STATE ADJ OF ADJ THE ADJ ART will retrieve nothing. That is, there will be no term occurrences of "of" and "the" and the system will not be able to obey your command. An alternative approach would be to search STATE WITH ART.

As the number of stop words varies among data bases, it is possible that you will attempt to use at least one of them in a search. It will be evident from the displayed list of term occurrences that you have used a stop word - there will be no term occurrences - and you can confirm this by using the ROOT operator.

4.28 SAVING QUERIES

You may wish to save queries to use on a different data base or at a later date. The way you do this is to:

- DISPLAY your queries
- remove unwanted queries using the ..PURGE command. For example, ..PURGE 2 will remove your second query. ..PURGE 3,5 will remove queries 3,4 and 5. Please remember not to purge queries which are referred to by queries you wish to retain. For example, say you wanted to save query number 15 and query 15 referred to queries 13 and 14. In this case you would need to save queries 13,14 and 15.

- SAVE wanted queries
- CHANGE data bases, or sign-off (and sign-on again at your next terminal session)
- EXEC (execute) the saved queries

To SAVE your set of queries for future reference you will need to enter

..SAVE

STAIRS will then ask for a four character name under which the queries will be stored. Enter any name you prefer - you will need to remember it to retrieve your queries. If you have inadvertently selected a name already in use, the system will ask you to enter a new name or to enter 'replace' to overwrite your previous query.

At some stage you may fill the storage space you have been allocated for saved queries. A message will appear on your screen informing you that an input/output error has occurred. If this happens, telephone RCI - you may need to purge some of your unwanted stored queries.

6.29 SEARCHING AND PURGING SAVED QUERIES

When you press the EXEC key, STAIRS will ask for the four character name you used to save your total search query. Type it in, press ENTER and the first of your stored queries will be executed or searched. To search your next stored query, just press the ENTER key again.

After you have finished executing all your stored queries and you know you will not want to use them again, delete them by typing ..PURGE and the name you assigned to the queries. For example, if you want to delete query WXYZ, type in ..PURGE WXYZ. STAIRS will respond by telling you that your saved query has been purged.

4.3 [illegible]

If you get some diagnostics while you are compiling a search, all you need to do is press the HELP key.

```
AQUARIUS-HELP MODE-THE FOLLOWING INFORMATION ARE AVAILABLE

1 = INTRODUCTION TO AQUARIUS          5 = MINIMUM CONFIGURATION
2 = BASIC-80                          6 = MY DATA BASES
3 = FUNCTION DESCRIPTIONS
4 = COMMAND FORMATS

REPLY WITH THE NUMBER CORRESPONDING TO YOUR DESIRED SELECTION.

TO VIEW VALID HELP SELECTIONS, TYPE THE WORD HELP.

YOU ARE LEAVING HELP AT ANY TIME BY ENTERING A VALID AQUARIUS
COMMAND, *** ENTER ONE OF THE ABOVE NUMBERS NOW.
=
```

When you invoke the HELP function, the system will list the types of assistance available to you. All you need to do is to enter the number corresponding to the type of help you require. For example, if you type in 6 (for MY DATA BASES) the system will respond with a list of the data bases available for searching:

```
AQUARIUS-HELP MODE

IN ORDER TO SEE THE LIST OF DATA BASES TO WHICH YOU
HAVE ACCESS, ENTER THE WORD "BASES"

*** ENTER NEXT SELECTION
```

TERM	SYSTEM RESPONSE
FUNCTIONS	Introduction to AQUARIUS functions
C. BROWSE C. CHANGE C. DISPLAY C. EXEC C. HELP C. MAIL C. OFF C. PAGE C. PRINT C. PURGE C. RANK C. SAVE C. SEARCH C. SORT	Explanation of the appropriate command
COMMANDS	Introduction to AQUARIUS commands
MENU OR TABLE	List of possible terms you can use to request HELP
MESSAGES	List and explanation of AQUARIUS system messages

If you require an explanation of an error message, all you have to do is type ..HELP and the four digit E number that appeared on your screen.

For example, if the message E4656* NAME IN USE. ENTER 'REPLACE' OR ANOTHER NAME appears on the screen while you are attempting to save a query, just type ..HELP 4656 and the system will respond with a detailed explanation of your mistake.

5. WHAT TO DO AFTER THE SEARCH

5.1 LOOKING AT YOUR RESULTS

To display your retrieved citations on the screen go into BROWSE mode. If you do this before you have submitted a search, you can browse through the entire data base.

When you press the BROWSE key, the system will ask you how much of each citation you wish to see. You can enter any of the following print specifications:

PRINT SPECIFICATION	MEANING
ALL	- the entire document (i.e. all paragraphs and formatted fields)
A	- all paragraphs
B	- all formatted fields (these will vary from data base to data base)
C or EXPLAIN	- an explanation of the paragraphs and fields available.

If you have retrieved more than say, 10 citations, you probably will not want to view all the details of all the citations, so just type in the numbers corresponding to the paragraphs you wish to see. As paragraph numbers vary from data base to data base, all you need do is type C or EXPLAIN for a list of paragraph names and numbers relating to the data base you are searching. For example, number 11 corresponds to the ERIC abstract paragraph so if you type in 11, only abstracts will be displayed on your screen.

If you want to change your existing print specifications while you are viewing your results, you can do it in either of two ways:

- by entering EXPLAIN - the system will show you the fields and paragraphs you may specify before prompting you to enter your new print specifications

- by entering NEWSPEC - the system will just prompt you to enter your new print specifications.

You can also go back and browse previous queries just by entering ..BROWSE and the query number. For example, if you wanted to look at the results of query 6 again, type ..BROWSE 6 and press the ENTER key.

5.2 MOVING AROUND YOUR ANSWER SET

Once you have entered BROWSE mode you can view your results (that is, your query answer set) in just about any order you specify. Pressing the ENTER key will cause the next screen to be displayed.

The next screen is equivalent to the next page. If you enter p=5, STAIRS will skip to and display the fifth page of the particular document you are browsing. If when you have viewed that fifth page you want to move back to your starting point, you have only to enter, p=1.

You can also select specific documents for browsing in the same manner. DOC=10 means skip to document citation number 10, and DOC=5 means skip back to document citation number 5. If you entered DOC+2, the second document after the one you are currently browsing will be displayed.

You can also move backwards in your answer set by the use of DOC- and the appropriate number. DOC-2 means skip back two documents before the one you are viewing.

5.3 PRINTING YOUR RESULTS

Browsing not only enables you to identify useful terms for subsequent searches, but it also helps you choose the retrieved citations you wish to print. Any printing you request can be printed off-line at ACI Computer Services and mailed to you.

You can use either of two commands to request off-line printing:

..PRINT or

..MAIL

Use the ..PRINT command when you are browsing a particular set of retrieved citations. By entering ..PRINT ALL, all the citations on your answer set will be printed off-line. A message telling you that your documents have been saved for printing will appear on the screen. You can also use the off-line printer for selective printing of results. For example, say you have completed a search, browsed through the results, and have now decided that you want to print citations 2,3,4, and 17. You will need to issue two separate print commands: ..PRINT 2,4 to print citations 2,3 and 4; and ..PRINT 17 to print the seventeenth citation. You will need to press the ENTER key after each PRINT command.

Unlike the ..PRINT command, you do not have to be in BROWSE mode to ask for documents to be mailed. By entering ..MAIL or pressing the MAIL key you can request printing from any of your query answer sets. For example, the command ..MAIL ALL will print all the citations from all of your search queries; and by entering ..MAIL 6 you are asking for the results of query 6 to be printed off-line. You can also specify printing from a string of queries: for example, the request ..MAIL 3,5 will print the results from queries 3,4 and 5.

In the examples above the print specifications will be the ones you last selected. In other words, the ..MAIL command defaults to the last set of print specifications issued to the system. If you prefer you can include print specifications in your MAIL command. The command ..MAIL 2 TITLE, AUTHOR means print all citations from query 2 in title and author format only.

6. MORE SEARCH TECHNIQUES

The description of STAIRS so far has concentrated on a basic set of instructions - sufficient for you to search, review and print citations from the data base of your choice. STAIRS however is quite a sophisticated system and some of its additional functions are described below.

6.1 RANKING YOUR RESULTS - THE RANK (Weighted Text Search) FUNCTION

The RANK function is an extension of the SEARCH function. You can use it like the SEARCH key except that RANK sequences retrieved items so that in BROWSE mode the most relevant items appear first.

Relevance is determined by STAIRS on the basis of the number of query terms present in the retrieved citation. You have a choice of five different ranking algorithms, each of which calculates relevance in a slightly different way:

A. $\frac{FTD \times FT}{TT}$

B. FTD

C. $\frac{FTD \times FTD}{TT}$

D. $\frac{FTD \times FT}{(TT + TT)}$

E. $\frac{FTD \times TT}{(FT - FTD)}$

where:

FTD is the number of occurrences of term T in document D,

FT is the number of occurrences of term T in document D,

TT is the number of documents in the answer set in which T occurs.

STAIRS will ask you to select one of these algorithms after the system has responded with the intermediate display of term occurrences for your query. If you forget to specify an algorithm, the system will assume you mean A.

To look at your ranked results all you need to do is press the BROWSE key.

There are two points you should keep in mind when you are using the RANK function:

- you cannot refer back to previous SELECT queries
- you can refer to previous SEARCH queries but the expanded query should not exceed 3 lines

6.2 SELECTING ITEMS - THE SELECT (Formatted Field Search) FUNCTION

Whereas the SEARCH and RANK functions retrieve citations by identifying a match between query terms and words in the data base, the SELECT function retrieves citations on the basis of the contents of certain formatted fields. The SELECT mode itself will tell you what formatted fields are available for the data base you are searching.

When you press the SELECT key STAIRS will ask for the number of the answer set from which the selection is to be made (this is called the EXTENT), and for the SELECT parameters (or CRITERIA).

```
AQUARIUS-SELECT MODE-ENTER EXTENT AND CRITERIA AFTER
THE STATEMENT NUMBER OR ENTER EXPLAIN

00001 _
```

The EXTENT can be either a previous query number or ALL; that is, you can select from the entire data base.

The SELECT parameters (or CRITERIA) are made up of:

name - the formatted field name

operator - SELECT has its own operators

value - what you wish to compare

For example, if you type 3 DATE EQ 1976 you are asking STAIRS to select from the answer set of query 3 all citations with the publication date of 1976.

The SELECT operators are:

OPERATOR	MEANING
EQ	equal to
NE	not equal to
GT	greater than
LT	less than
NL	not less than (i.e. greater than or equal to)
NG	not greater than (i.e. less than or equal to)
WL	within limits
OL	outside limits

WL and OL require two values separated by a comma.

The instruction ALL PAGES WL 50,100, asks the system to select those items from the entire data base that have between 50 and 100 pages.

You can also ask for combinations of criteria within the same formatted field by the use of minor "and" (&) or minor "or" (,). For example, if you type 4 CODE GT 250 & NE 270, citations from the answer set of query 4 with a code greater than 250 but excluding 270 will be retrieved.

If you want the criteria to refer to several formatted fields, make use of the major AND or major OR. If, for example, you type 4 SEX EQ MALE AND NAME EQ BROWN, the citations selected from the answer set of query 4 will refer to a male whose name is Brown (presuming, of course, that SEX and NAME are formatted fields for the data base you are searching).

6.3 SORTING YOUR RESULTS

The SORT function allows you to sort the results of a search query into ascending or descending order of a formatted field.

When you press the SORT key, the system asks you to enter your sort parameters or to press ENTER for a list of the fields you can sort.

For example, if you enter 3 DATE D, the system will sort the results of query 3 so that the most recent publications appear first.

When you use the SORT function keep in mind that:

- the maximum number of documents that you can sort is 200
- if you forget to specify ascending (A) or descending (D) order, the system will assume you mean A.

7. BATCH MODE STAIRS

The description of STAIRS so far has concentrated on only one of its two methods of operation - on-line mode. You can also use STAIRS in batch mode.

As the word "batch" implies, a group or "batch" of stored searches are executed at a time other than that of your terminal session. Batch mode searches are usually run during an off-peak time for the system, for example, overnight. You may wish to apply batch mode STAIRS to your current awareness services you operate.

Most of the STAIRS functions available to you during a on-line terminal session are also available with batch mode STAIRS.

If you wish to investigate using batch STAIRS for any of your operations, please contact:

Mr. Bryan Ingram
ACI Computer Services
310 Ferntree Gully Road
CLAYTON VIC 3168

Telephone 03 5448433

AUSINET DATA BASES

It is proposed that the following data bases will be available to AUSINET participants:

AMB
APAIS
ASI
CA CONDENSATES
COMPENDEX
ERIC
INSPEC
METADEX
NTIS
SCI
SSCI

At the time of publication of this manual the following data bases are available for searching:

Data base	Data base name	Comments
AMB	ANB	Test file
APAIS	APAS	Test file
ERIC	RYTD	1974 to date of RIE
	CYTD	1974 to date of CIJE
	RMTH	Latest month of RIE
	CMTH	Latest month of CIJE
SCI	SCMX	Latest nine months of SCI
SSCI	SSCI	1976 to date
	SSCJ	Latest two weeks of SSCI

The National Library has also made some small test files available for searching:

Data base	Data base name	Comments
AUSTRALIAN EDUCATION INDEX	AEII	50 item file
BOOT	BOOT	Australian journal articles and newspaper items
CHOICE	CHOI	50 item file
PINPOINTER	PINP	50 item file
AUSTRALIAN SCIENCE INDEX	ASII	One month test file

It is proposed that fact sheets including data base description, subject coverage, update frequency, sample record, retrieval methods and formatted fields will be issued to AUSINET participants.